

Work Order ID 59621

Wednesday, June 09, 2010 8:41:34 AM



Page 1

Item ID: D6101-007

Revision ID:

Item Name: Saddle Billet

Start Date: 6/9/2010 Start Qty: 30.00

Required Date: 6/24/2010 Req'd Qty: 30.00

Reference:

Approvals:

Process Plan: CLDate: 10/6/10 Tooling:

Date:

Run Start



QC:

Date: _____ SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr	Revision Nbr
D6101	Rev B

100



PURCHASING

Purchasing

Memo

Issue P/O: 1Q055

- a) Description: Aluminum billet
- b) 7.750" x 8.250" x 2.50" thick
- c) Tolerance on all dimensions are +0.030"/-0.000"
- d) Grain direction along 7.750" length
- e) Material: 7075-T7351 (QQ-A-250/12)
- f) Material certification required

110



Receive & Inspect for Damage & Mat'l Certs

0.00

Packaging

Memo

Ensure material certification is attached

Packaging

CL 10/6/10 30P10/6/10 30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 59621

Wednesday, June 09, 2010 8:41:34 AM



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Item ID: D6101-007

Accept



Setup Start



Revision ID:

Item Name: Saddle Billet

Stop



Start Date: 6/9/2010 Start Qty: 30.00



Cust Item ID:

Required Date: 6/24/2010 Req'd Qty: 30.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC6- Inspect dimensions to drawing

0.00

cmk 10/06/24

30

Ø



QC

Quality Control

Memo

0.00

Ensure Material certification comply to Dwg D6101

130

Identify as per dwg & Stock Location: MAT

0.00

cmk 10/06/24

30

Ø



Packaging

Packaging

Memo

0.00

140

QC21- Final Inspection - Work Order Release

0.00

QC

Quality Control

Memo

0.00

10/06/24 Ø

(10/06/24)
(30)

W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, June 09, 2010 8:41:38 AM

Page 1

Work Order ID: 59621



Parent Item: D6101-007



Parent Item Name: Saddle Billet

Start Date: 6/9/2010

Required Date: 6/24/2010

Comments: IPP A: 01.05.04 New Issue EC

Start Qty: 30.00

Required Qty: 30.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007P 7075-T7351 8.25X7.75X2.5		Purchased		No		110	Each	0.0000	1	30		CL 10/6/23	(30)

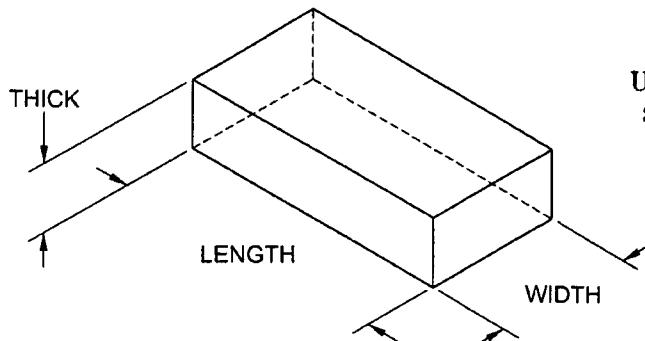
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SPECIFICATION CONTROL DRAWING



SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK CENTER
 NO. 59021
08/10/09

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12,
 QQ-A-250/12, OR ASTM B209

B

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/W

2010-6-24
2010-6-24

B	ADDED D6101-015-017, ADD ASTM B209			RF	09.04.23
A	NEW ISSUE			CP	01.03.30
REV.	DESCRIPTION			BY	DATE
DESIGN	CP	DART AEROSPACE LTD			
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA			
CHECKED	<i>PH</i>	DRAWING NO.	REV. B		
MFG. APPR.	<i>PH</i>	D6101	SHEET 1 OF 1		
APPROVED	<i>W</i>	TITLE	SCALE		
DE APPR.	<i>W</i>	SADDLE BILLET, 7075	NTS		
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO12055

Purchase Order Date 6/10/10

PO Print Date 6/10/10

Page Number 1 of 1

Order From : VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name	Buyer	Chantal Lavoie
Vendor Phone	Requisition Nbr	
Vendor Fax	Tax Resale Nbr	10127-2607
Vendor Account Nbr	Terms	Net 30
	Currency	CAD
	FOB	

FAXED
6/10/10

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Line Nbr	Reference Revision ID	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6101-007P	7075-T7351 8.25X7.75X2.5	6/25/10	30.00 Yes	Yours ppd Each	\$72.7500	\$2,182.50

Special Inst: ALUMINUM BILLET
SIZE: 7.750" X 8.250" X 2.50" THICK
TOLERANCE ON ALL DIMENSIONS ARE
+0.030"/-0.000"
GRAIN DIRECTION ALONG 7.750"
LENGTH
MATERIAL: 7075-T7351 (QQ-A-250/12)
B59621

On Hold 10/6/10
PO Total: \$2,182.50

**MATERIAL CERTIFICATION
REQ'D UPON DELIVERY**

u CL
No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable



Castle Metals®

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Shipment No:384868

Ship From:	Sold To:	Ship To:	Deliver To:
Castle Metals MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
Date Shipped	F.O.B.	Freight Terms	Carrier
22-JUN-10	ORIGIN	Prepaid	MANITOULIN

Shipment Details	Final Destination Branch - MON
------------------	--------------------------------

Order No	Line No	Item No	Description					
807621	1	6879.MO	2.5000.PL.7075.T7351.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) X 7.75 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) - ALUMINUM PLATE SAW					
Purchase Order No	Part Number	Ordered Qty			Invoice Qty			
12055		30 PCS			30 PCS			
Details								
Delivery No.	Mill	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty (LBS)	
30645310		485715A7		30				495.95

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:		Date:	
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DRK 10/16/24

Castle Metals FP

HEAT NUMBER 485715A7
MECHANICAL ID
ITEM CODE 6829
LOT NUMBER
PO NUMBER 17121
RECEIPT DATE 10-12-09
SUPPLIER KAISER
SPECIFICATION
LCS 100
COMMENT
APPROVED B.J.

SHIP TO:
A M CASTLE & CO
3400 NO. WOLF ROAD
FRANKLIN PARK, IL 60131

SOLD TO:
AM CASTLE & CO- SOLD TO
3400 NO. WOLF ROAD
FRANKLIN PARK, IL 60131

KAISER
ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4173294

CUSTOMER PO NUMBER:		WORK PACKAGE:	CUSTOMER PART NUMBER:		SHIP RUN/LOAD ID:	GOVT CONTRACT NUMBER:
01-23160			6879 A97075-60		101640/19	
KAISER ORDER NO:	LINE ITEM:	SHIP DATE:	ALLOY:	CLAD:	TEMPER:	PRODUCT DESCRIPTION:
1087294	1	5-OCT-2009	7075	BARE	T7351	Sawed Plate
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:	GAUGE:	DIAMETER/WIDTH:	LENGTH:	
7196 LB	4 PCS EST.	2024315	2.5000 IN	48.500 IN	144.500 IN	

Certified Specifications

AMS 4078/RevG

AMS-QQ-A-250/12

AMS-STD-2154

ASTM B 209/Rev07

ASTM B 594/Rev06

BAC 5439/RevH

BSS 7055/RevA

CMMMP 025/RevS

CSTI 006/RevC

DPS 4.713/RevAH

EAC MS1011/RevE

GAMPS 9101/RevB

GSS16100/RevG/Amd1

MMS 159/RevN

PS 21211/RevK

Test Code: 4297

Test Results

Lot: 485532A6 Cast 271

Drop 21

Ingot 1

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.6 : 71.4 (487 : 492)	58.6 : 59.1 (404 : 407)	10.4 : 11.2

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	40.8 Min	41.3 Max
(MS/M) :	23.7 Min	24.0 Max

(ASTM E1251)

Chemistry:	Si	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.21	1.5	0.04	2.5	0.19	5.5	0.04	0.01	0.01	TOT 0.05

Onf 10/06/2009



Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4173294

Lot: 485715A7 Cast 271 Drop 21 Ingot 4

(ASTM E8/8557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.4 : 72.4 (492 : 499)	59.2 : 60.9 (408 : 420)	11.2 : 11.4

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	40.9 Min	41.2 Max
(MS/M) :	23.7 Min	23.9 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.21	1.5	0.04	2.5	0.19	5.5	0.04	0.01	0.01	TOT 0.05

ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

TEST NOTES

7075-T7351 plate 3.501-4.000" thick, if
ultrasonically inspected, meets requirements of CMMPO25 per
SDR CMMPO25-KaiserT-3. 7075-T7351 plate 4.001-5.000" thick,
if ultrasonically inspected, meets requirements of CMMPO25
per
SDR CMMPO25-KaiserT-2.

Metal represented by this test report was immersion
ultrasonically tested from one side and meets the Class A
and Class B requirements of all specifications referenced
on this test report.

OK 10/06/24

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR

Bill Poyner